

## **Comparative analysis of the qualitative composition of secoiridoid glycosides in *Centaurium erythraea* Rafn. and *Centaurium pulchellum* (Sw) Druce herbs**

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*Centaurium* genus has 20 species, widely distributed in Eurasia, South and North America, as well as in Australia [1]. In Ukraine grows 7 species of centaury. The centaury herb is a valuable source of biologically active substances – bitters (secoiridoid glycosides): swertiamarin, sweroside and gentiopicroside. The pharmacological activity of these biologically active substances includes gastric, digestive, anti-inflammatory and antipyretic effects, as well as choleric and hepatoprotective effects. In order to find new and promising herbal material for use in medical applications, it is important to study chemical composition of the centaury species.

The aim of our work was to study chemical composition, namely, determination of qualitative composition of the secoiridoid glycosides in *Centaurium erythraea* and *Centaurium pulchellum* herbs in order to select an active marker for the standardization of herbal material.

For the study of quantitative content, 10 series of *Centaurium erythraea* and 3 series of *Centaurium pulchellum* herbs were chosen to determine the feasibility of the interchangeability of the two types of the mentioned herbal materials. Qualitative composition of the secoiridoid glycosides in the analyzed samples was carried out on the basis of the Lithuanian University of Health Sciences by two methods - HPLC and UPLC [2].

As a result of the study, a different ratio of swertiamarin, sweroside and gentiopicroside was identified and established, depending on the type of the herbal material. It was found, that swertiamarin is the main secoiridoid glycoside of the *Centaurium erythraea* herb, and sweroside and swertiamarin are the main ones in *Centaurium pulchellum* herb.

According to the results of the studies, swertiamarin was chosen as an active marker substance for quantitative determination of biologically active substances, which is contained in two types of the herbal materials in a significant amount. It was shown, that among the studied herbal samples *Centaurium erythraea* herb is more promising object for swertiamarin quantitative content.

### **References:**

1. C.A. Newall, L.A. Anderson, J.D. Phillipson, Herbal Medicines – A Guide for Health-Care Professionals, first ed., The Pharmaceutical Press, London, 1996.
2. Proskurova Ya. O., Gubar S. M., Georgiyants V. A. Chromatographic research of secoiridoid glycosides and quantitative content of swertiamarin in Centaury common herb (*Centaurium erythraea*). - Science and Practice 2016: the 7th International Pharmaceutical Conference, Kaunas, Lithuania, Kaunas, 2016.